Main Cross Sections

Elastic
Capture
Fission
Inelastic

cross section (barn)

neutron energy(eV)
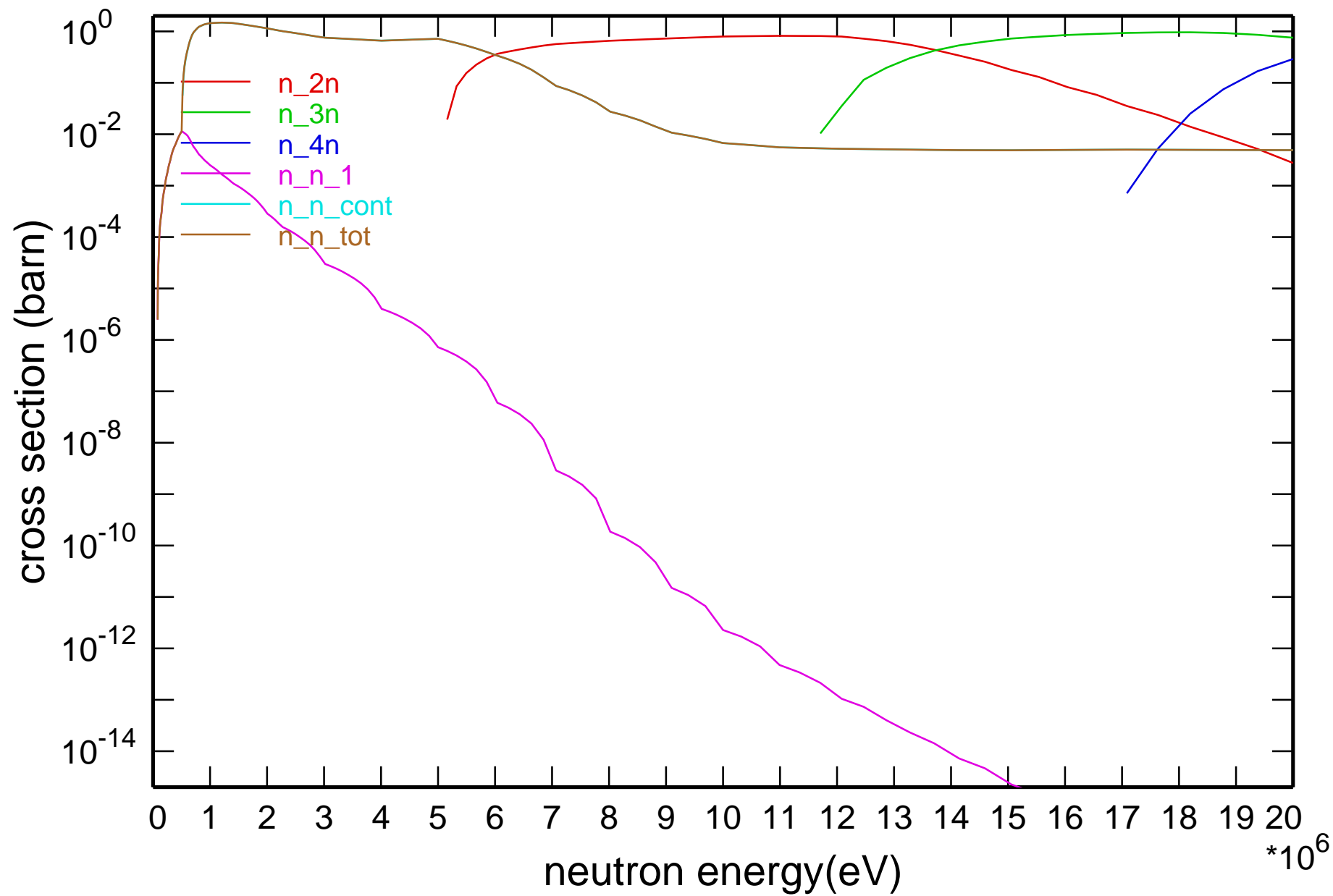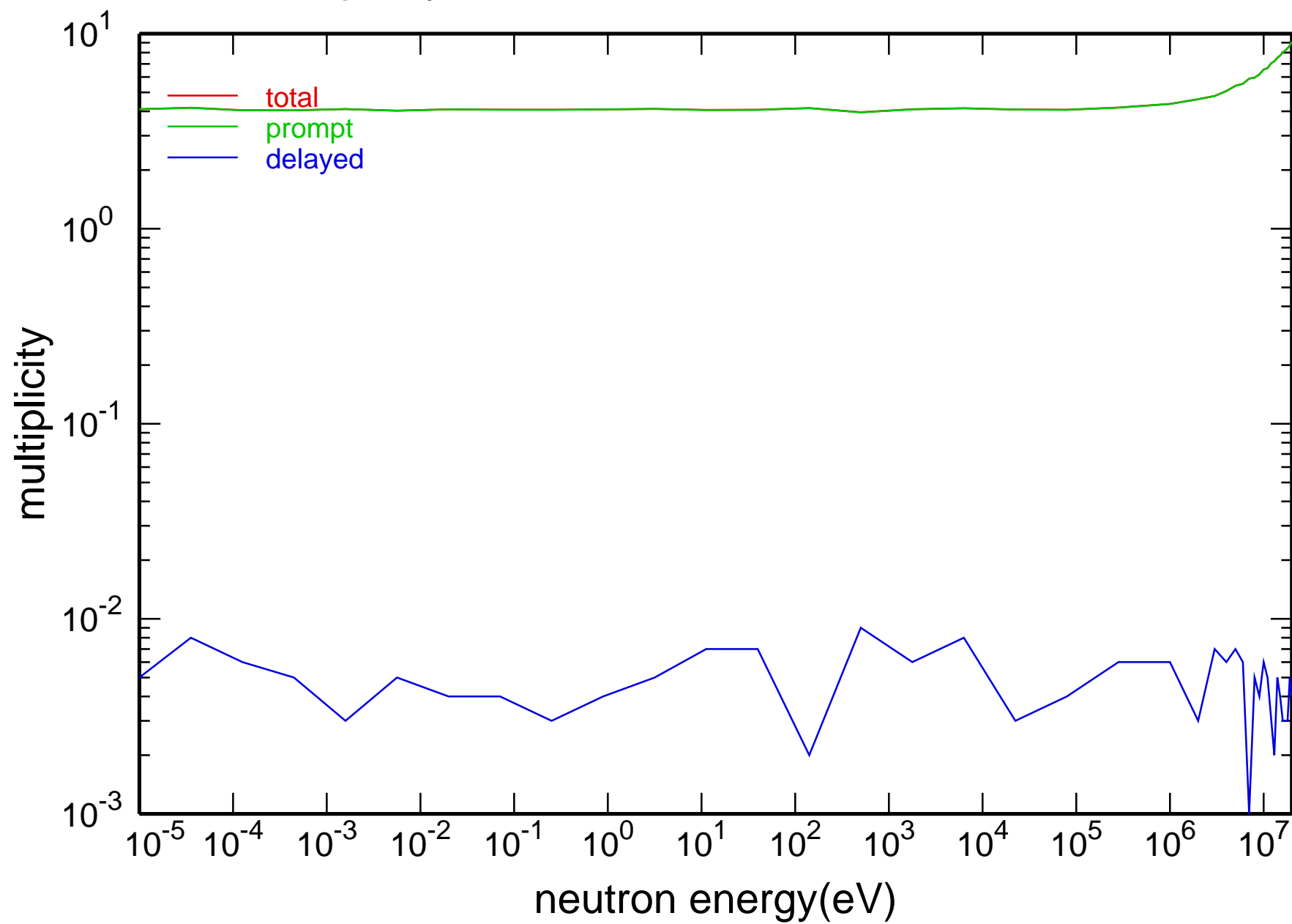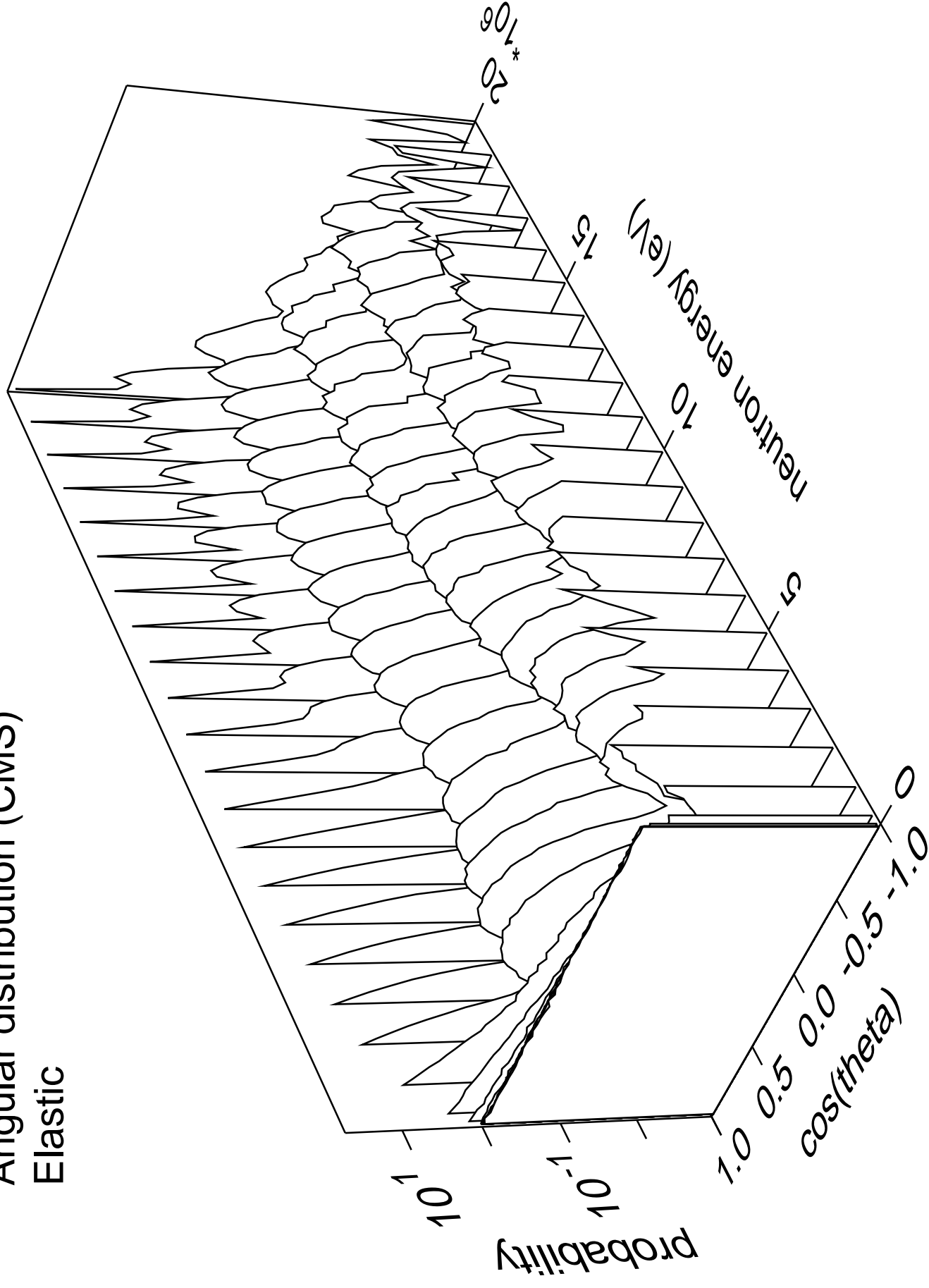
Cross Section

neutron multiplicity for fission

Angular distribution (CMS)
Elastic
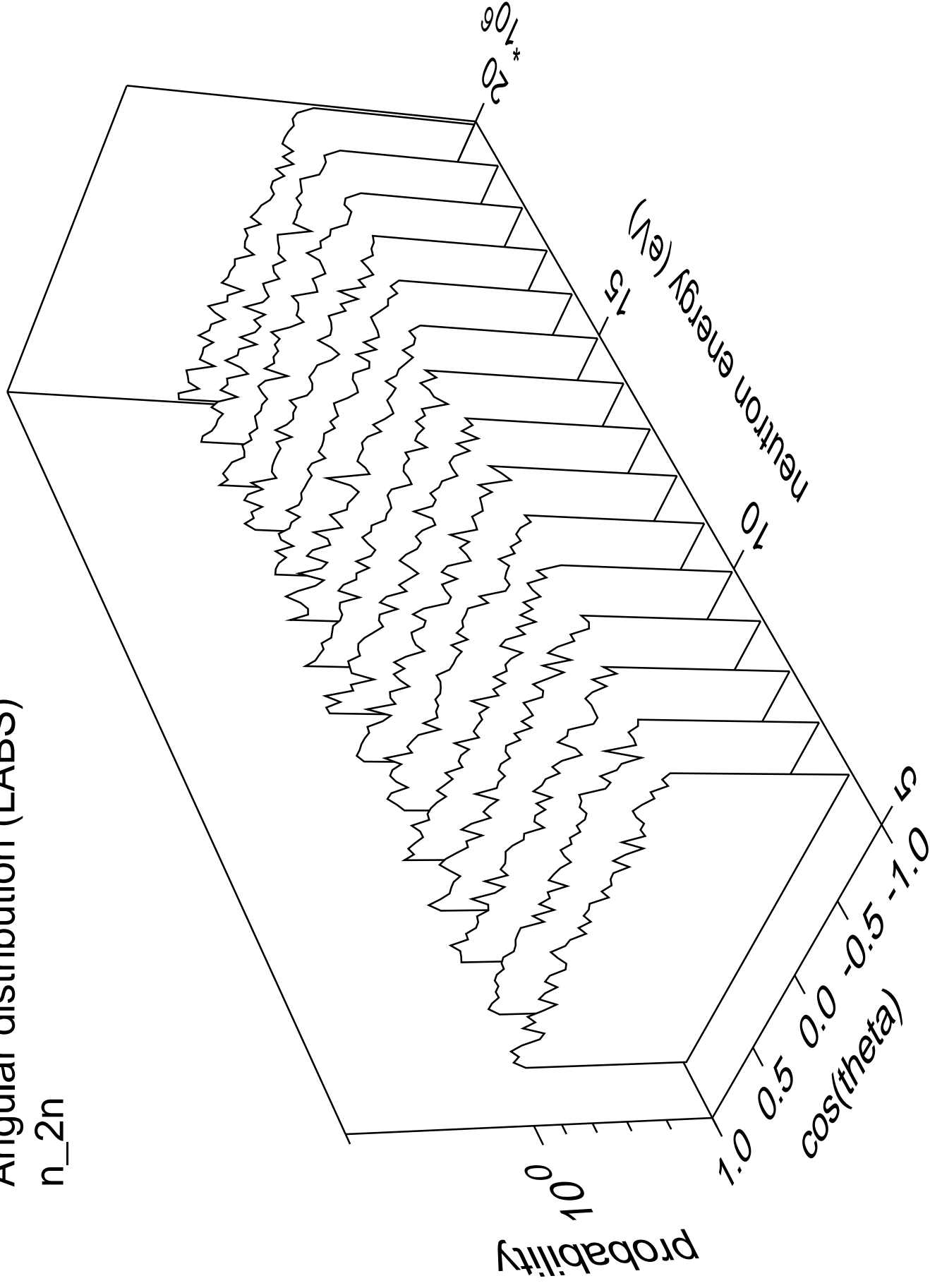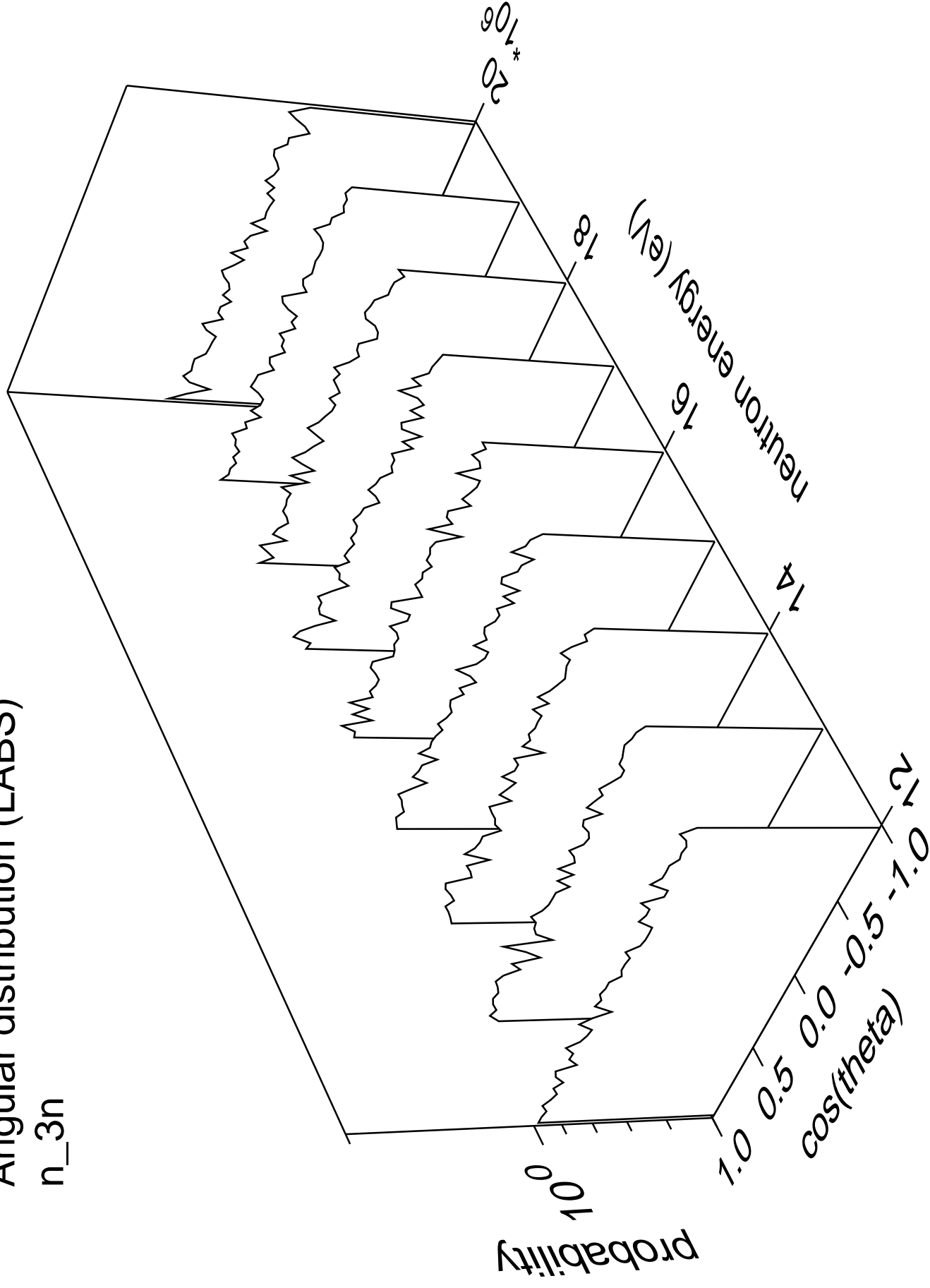
neutron energy (eV)

*10⁶

cos(theta)

probability

Angular distribution (LABS)
n_2n

probability

10⁰

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

5

10

15

20

neutron energy (eV)

*10⁶

Angular distribution (LABS)
n_3n

probability

neutron energy (eV)

cos(theta)

Angular distribution (LABS)
n_4n

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_1

probability

10⁰

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

neutron energy (eV)

0 5 10 15 20
*10⁶

Angular distribution (LABS)
n_n_cont

probability

10^0

cos(theta)

1.0   0.5   0.0   -0.5   -1.0

0

5

10

15

20 *10⁶

neutron energy (eV)
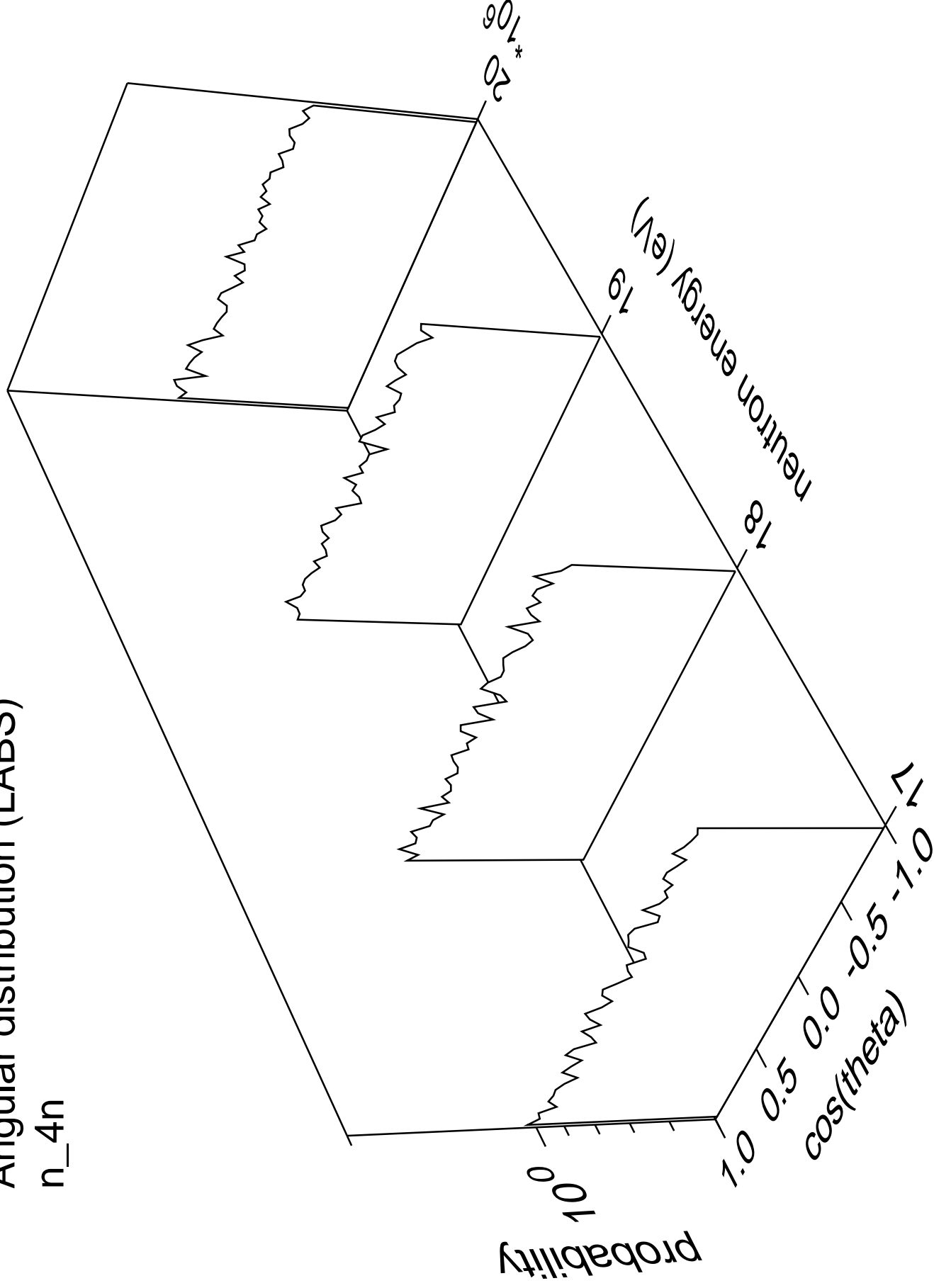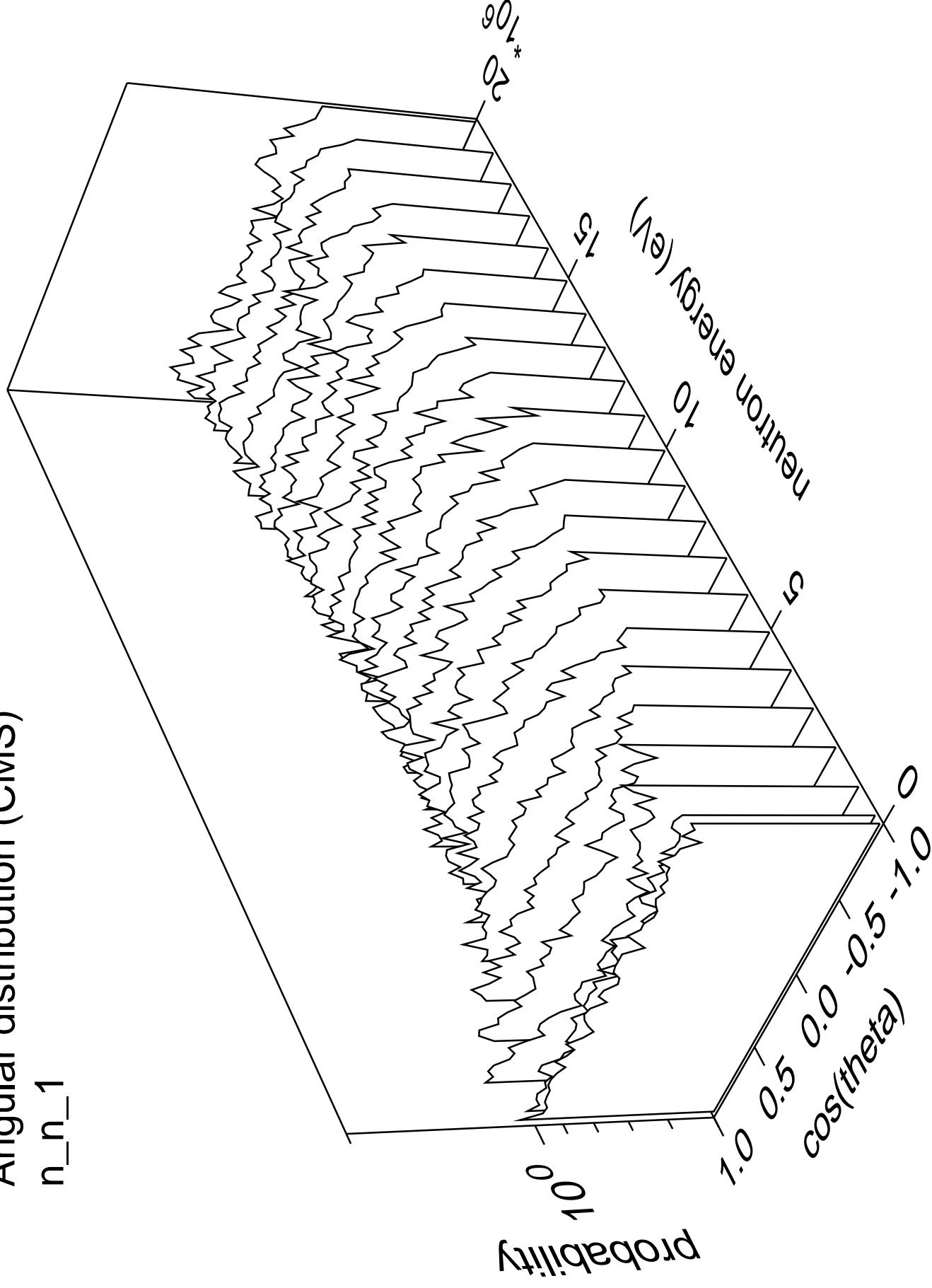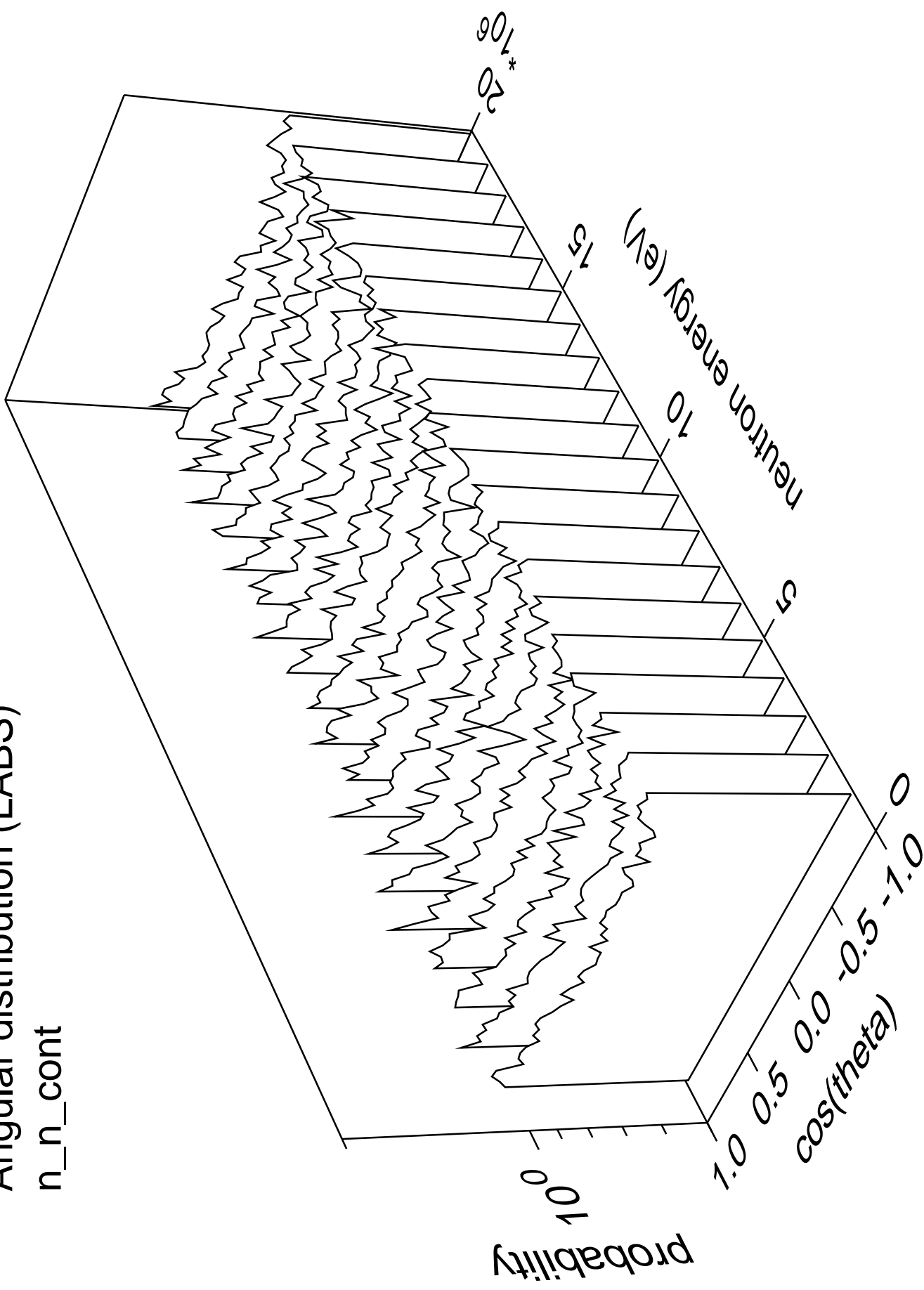
Angular distribution (LABS)
Fission
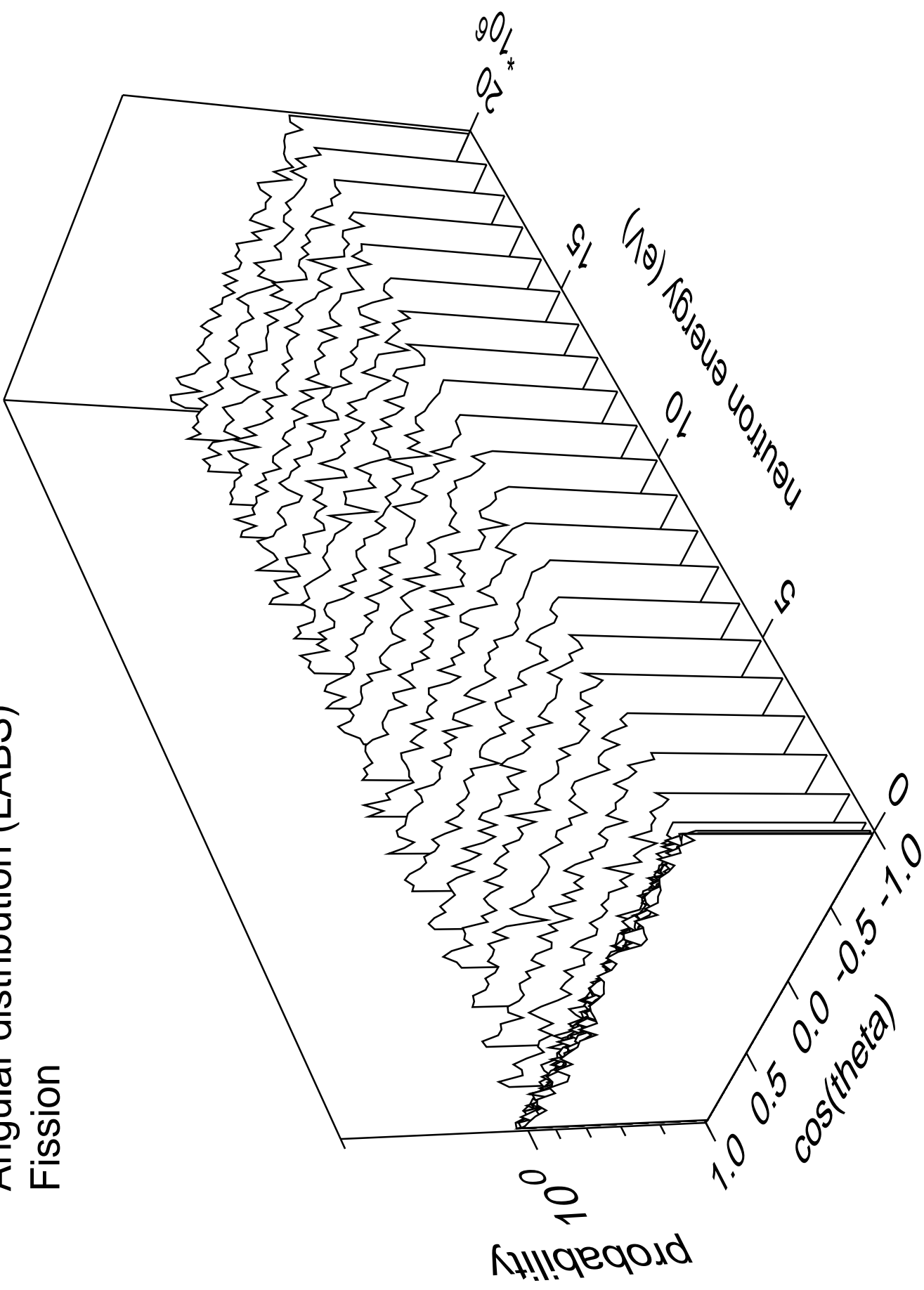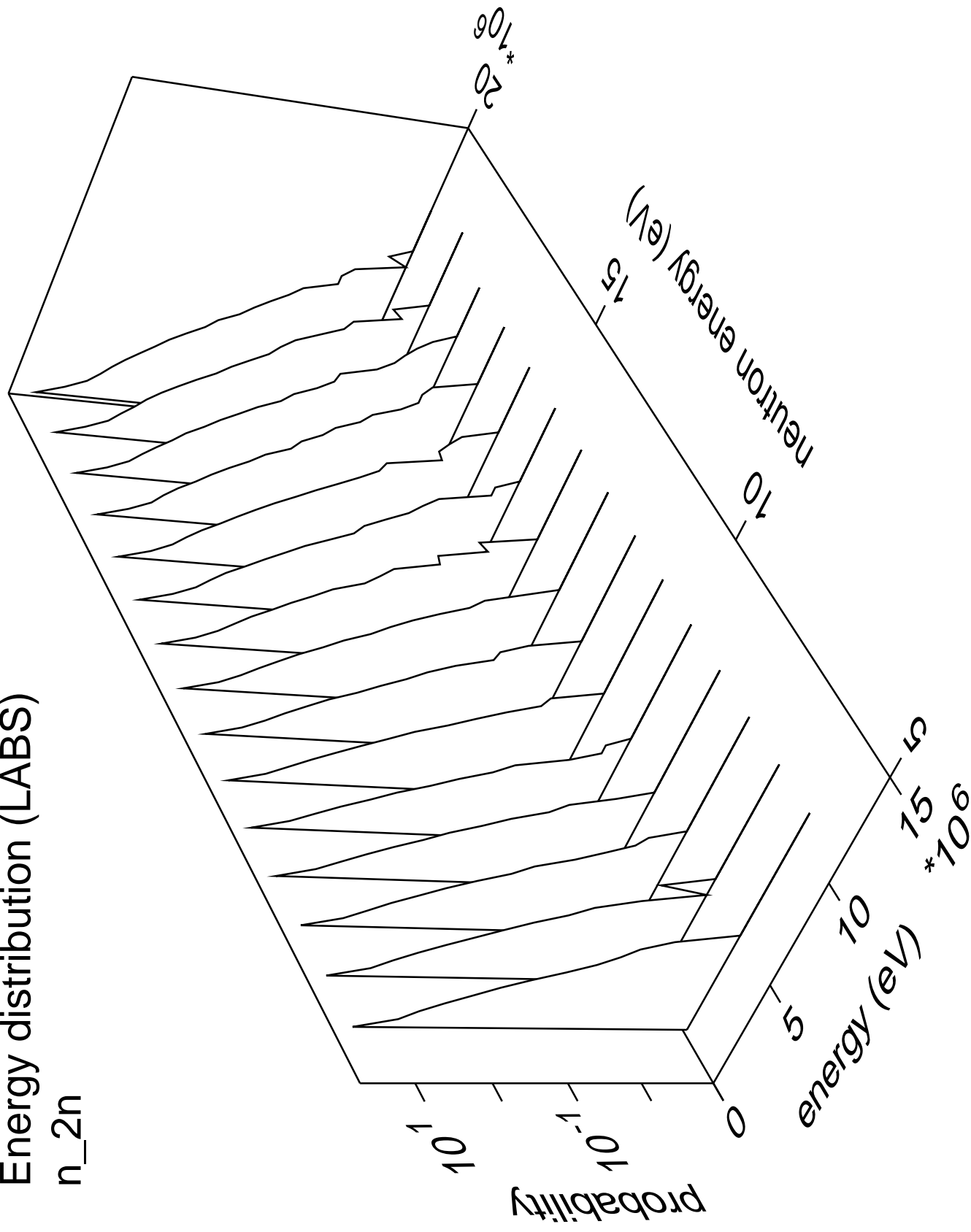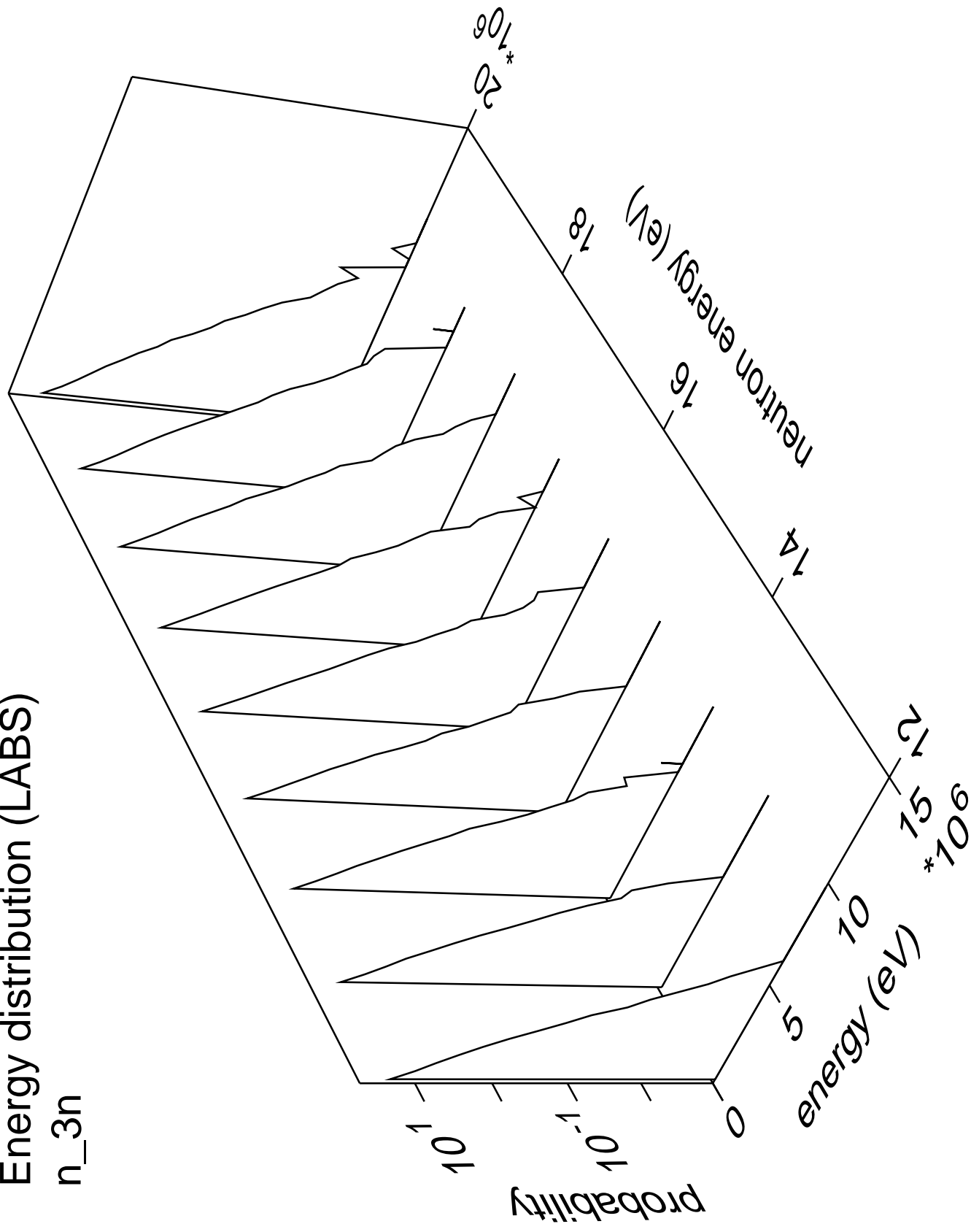
probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰

Energy distribution (LABS)
n_2n

probability

10^1

10^{-1}

energy (eV)   0   5   10   15   20 $*10^6$

neutron energy (eV)   5   10   15   20 $*10^6$

Energy distribution (LABS)
n_3n

probability

10^1

10^{-1}

energy (eV) *10^6

0

5

10

15

2

neutron energy (eV)

14

16

18

20 *10^6

Energy distribution (LABS)
n_4n

probability

neutron energy (eV)

energy (eV)

20 *10⁶

19

18

17

0 2 4 6 8 10 *10⁶

Energy distribution (LABS)
n_n_cont

probability

10^1

10^{-1}

energy (eV)   *10⁶

0.0 0.5 1.0 1.5 2.0 2.5

neutron energy (eV)

0   5   10   15   20   *10⁶
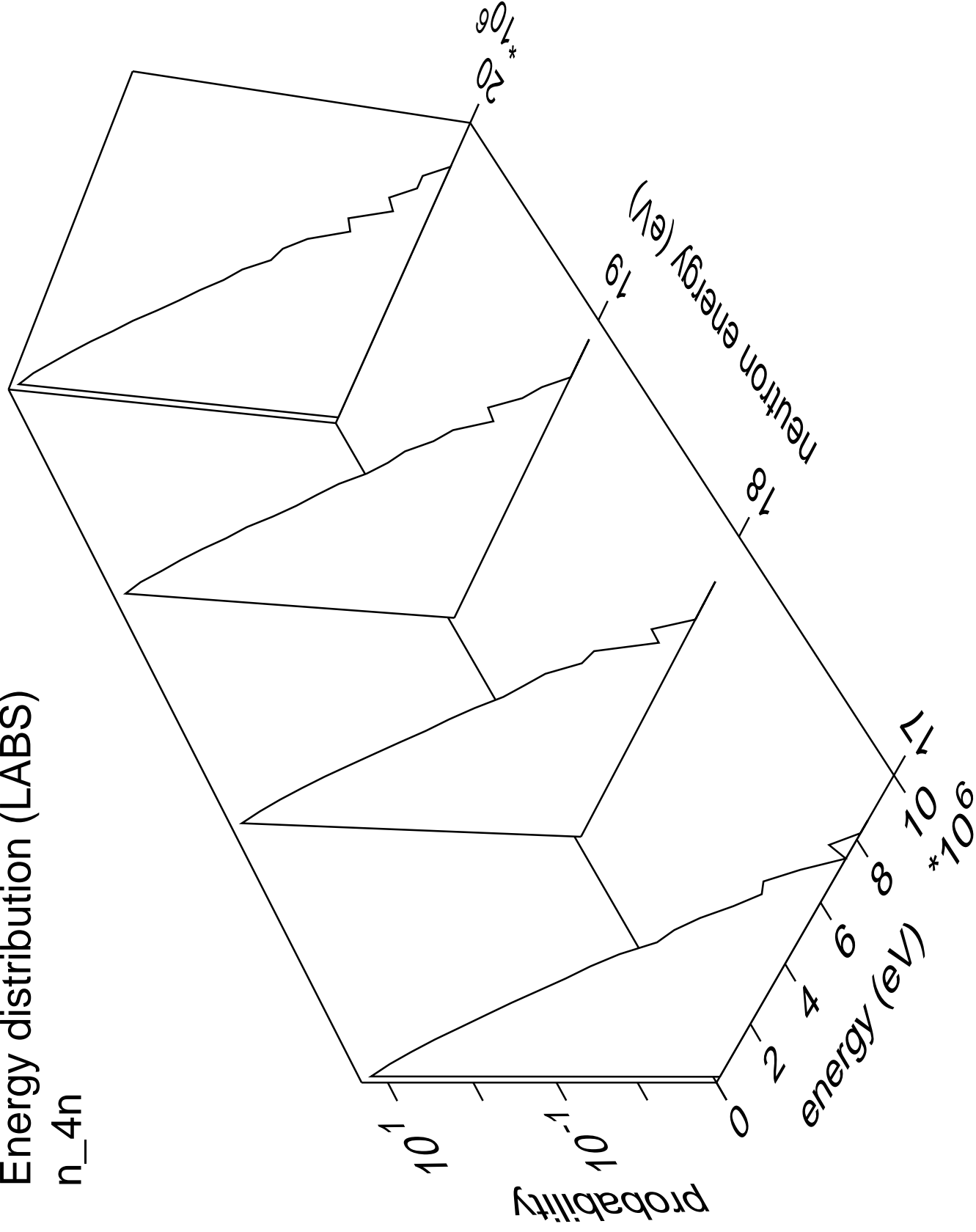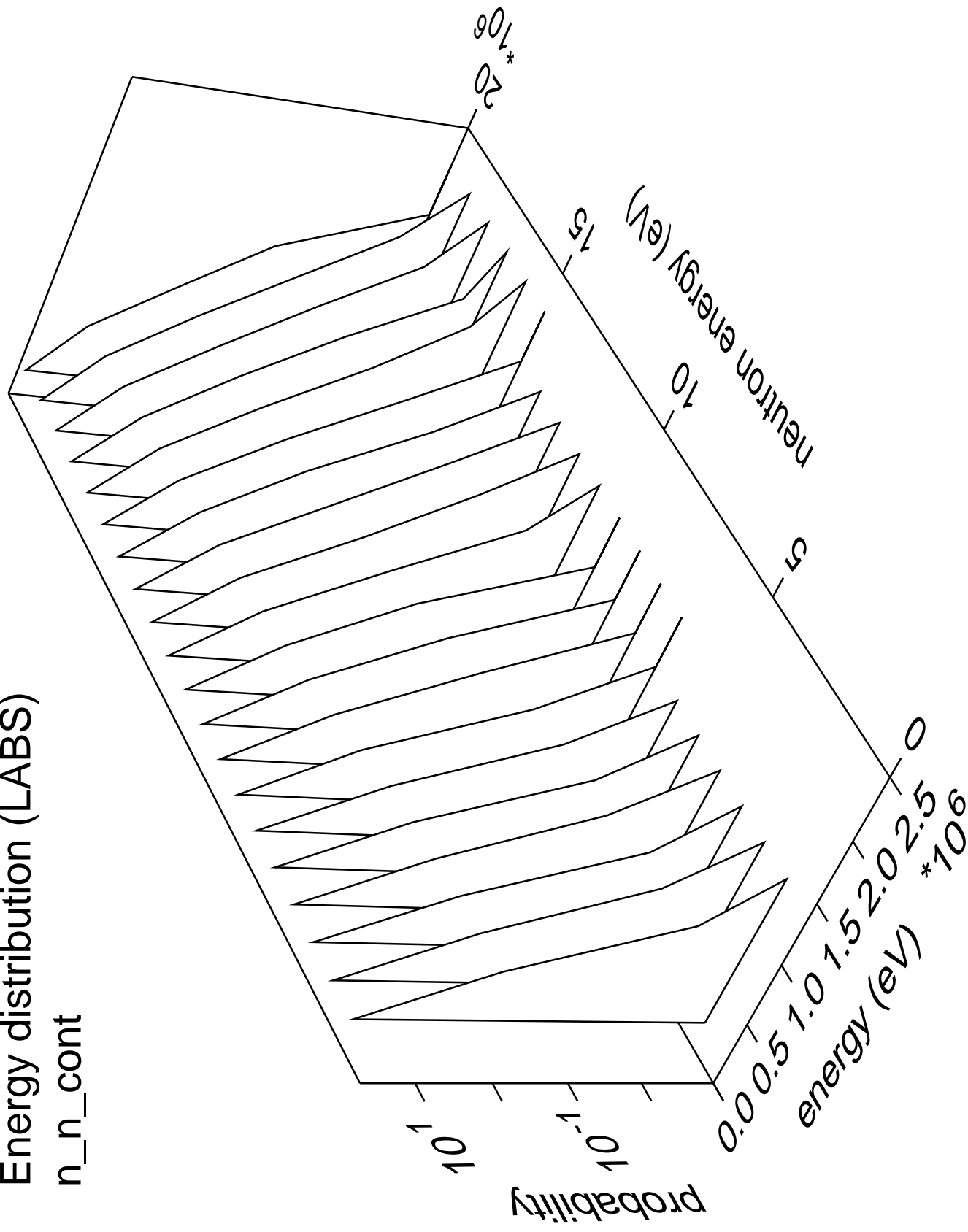
Energy distribution (CMS)
Fission prompt

probability

10¹

10⁻¹

neutron energy (eV)

20 *10⁶

15

10

5

0

energy (eV)

0

5

10

15   20

*10⁶
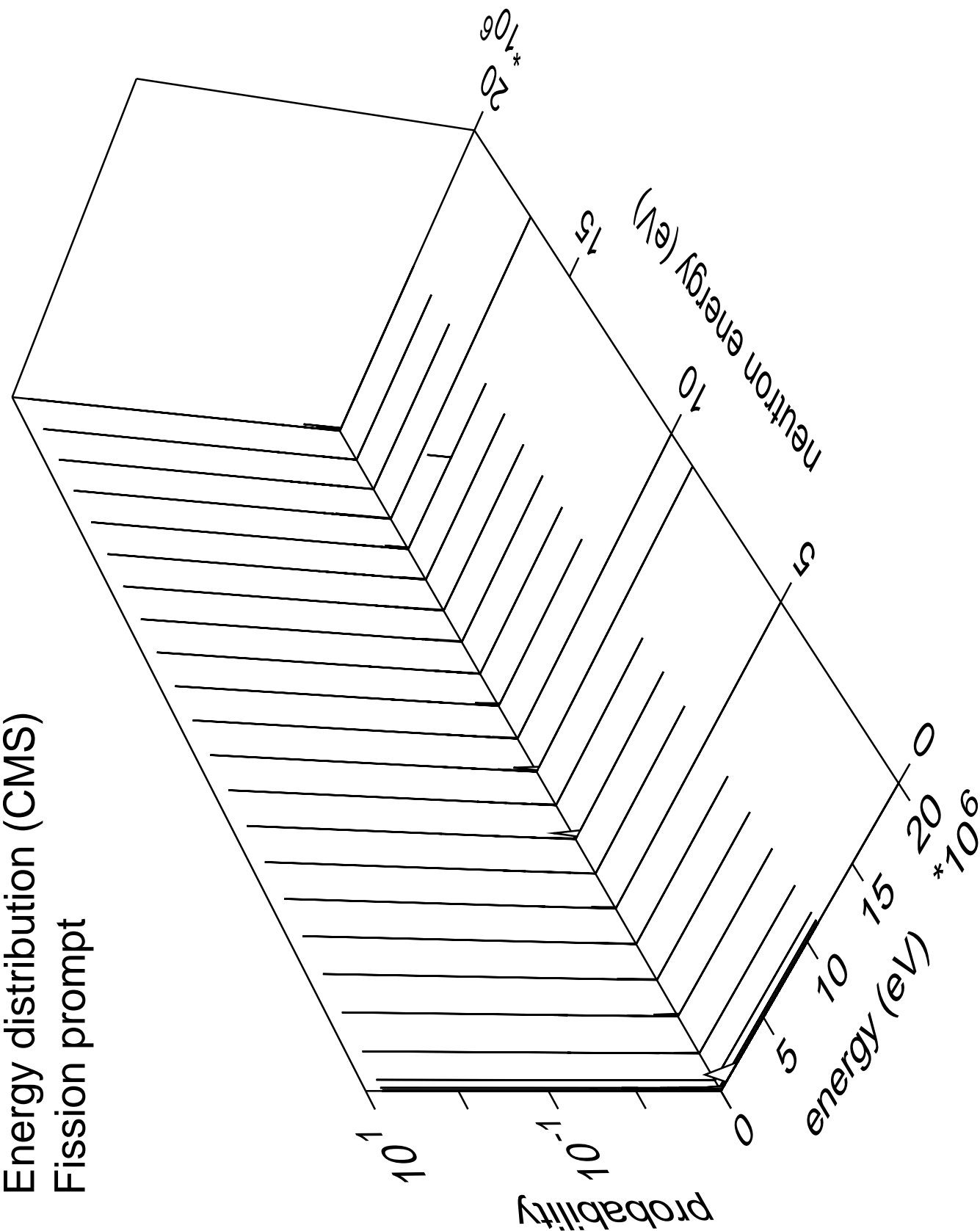
Energy distribution (CMS)
Fission delayed

probability

10¹

10⁻¹

neutron energy (eV)

5   10   15   20   *10⁶

energy (eV)

0   200 400 600 800   *10³